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EXAMINER

TRAN, PHILIP B

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Please find below and/or attached an Office communication concerning this application or proceeding.

Response to Amendment

Notice to Applicant

1. This communication is in response to amendment filed 18 November 2005.

Claims 1-86 are pending for further examination.

Claim Rejections - 35 U.S.C. § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-81 and 86 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yamano, U.S. Pat. No. 6,636,516.

Regarding claim 1, Yamano teaches a method for a destination node to process received data that was routed through a network by using a transmittal virtual path identifier, the destination node having multiple executing application programs each associated with a network address, the method comprising: receiving multiple data

transmissions that are each routed through the network to the destination node from a remote source node by using a transmittal virtual path identifier that is assigned to a path through the network from that source node to the destination node; and for each of the multiple received data transmissions, determining the transmittal virtual path identifier used to route the received data transmission to the destination node; determining one of the executing application programs to which the determined virtual path identifier corresponds, the determined virtual path identifier distinct from the network address associated with the determined application program; determining whether the received data transmission includes an indication of a destination network address that is distinct from the network address associated with the determined application program; and when the received data transmission is determined to include an indication of a destination network address distinct from the associated network address, modifying the received data transmission by replacing the indication of the destination network address with an indication of the associated network address; and supplying the modified received data transmission to the determined application program (= routing data through the network by using virtual connection identifier for transmitting data to the destination address associated with the network IP address) [see Abstract and Figs. 6-7 and Col. 2, Lines 12-56 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claim 2, Yamano further teaches the method of claim 1 wherein the network has a network manager, and including, before the receiving of at least some of

the multiple data transmissions, receiving from the network manager information related to those data transmissions that includes indications of the transmittal virtual path identifiers to be used for the routing of those data transmissions, and wherein the determining of the executing application programs to which those indicated virtual path identifiers correspond is based at least in part on the information received from the network manager [see Fig. 3 and Col. 4, Lines 1-22].

Regarding claim 3, Yamano further teaches the method of claim 1 wherein the received data transmissions each include a location in which a destination network address can be stored, wherein the determining of whether a received data transmission includes an indication of a destination network address that is distinct from the associated network address consists essentially of determining whether the location for that received data transmission does not include an indication of the network address associated with the application program determined for that data transmission, and wherein the replacing of the indication of a destination network address with the indication of an associated network address consists essentially of storing that associated network address in the location for that received data transmission [see Figs. 6-7 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claim 4, Yamano further teaches the method of claim 1 including, when a received data transmission includes an indication of the associated network

address, supplying the received data transmission to the determined application program without modifying the indicated network address [see Figs. 6-7].

Regarding claim 5-7, Yamano further teaches the method of claim 1 wherein the network addresses associated with the application programs are IP addresses and wherein at least some of the application programs have associated network addresses that are distinct from the network addresses associated with other of the application programs and wherein, for at least some of the received data transmissions that include an indication of a distinct destination network address, the received data transmission was transmitted to each of multiple destination nodes and the distinct destination network address corresponds to one of the other destinations nodes (= IP address) [see Col. 4, Line 55 to Col. 5, Line 30].

Regarding claim 8, Yamano further teaches the method of claim 1 wherein, for at least some of the received data transmissions that include an indication of a distinct destination network address, the data transmission was requested by an executing source application to be transmitted to a distinct destination node with which the distinct destination network address is associated, and wherein a network manager for the network instead selected to transmit the data transmission to the destination node (= destination IP address) [see Fig. 6].

Regarding claim 9, Yamano further teaches the method of claim 1 wherein the path to which a transmittal virtual path identifier is assigned is relative to a source node using that transmittal virtual path identifier to transmit data, wherein multiple of the received data transmissions are from multiple distinct source nodes and use a single transmittal virtual path identifier that is assigned to distinct paths from those source nodes to the destination nodes, and wherein the determining for each of those multiple received data transmissions of the executing application program to which that data transmission corresponds is based at least in part on information related to that data transmission such that those received data transmissions are supplied to multiple of the application programs (= using virtual connection identifier to transmit data) [see Figs. 6-7].

Regarding claim 10, Yamano further teaches the method of claim 1 including determining for each of the received data transmissions one or more Quality Of Service parameters related to that data transmission, and wherein the determining of the executing application program to which a data transmission corresponds is based at least in part on a combination of the determined transmittal virtual path identifier used to route that data transmission to the destination node and the determined Quality Of Service parameters related to that data transmission (= QoS parameter) [see Abstract].

Regarding claim 11, Yamano further teaches the method of claim 1 including determining for each of the received data transmissions a response virtual path

identifier assigned to a path from the destination node for that data transmission to the source node for that data transmission, and wherein the determining of the executing application program to which a data transmission corresponds is based at least in part on a combination of the determined transmittal virtual path identifier and the determined response virtual path identifier for that data transmission [see Figs. 6-7 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claim 12, Yamano teaches a computer-implemented method for processing a received data communication based on a virtual identifier that was used to route the data communication through a network, the method comprising: receiving an indication of a data communication that was routed to a destination along a path through the network by using a virtual identifier corresponding to the path, the virtual identifier distinct from a network address associated with the destination; determining the virtual identifier used to route the indicated data communication along the path through the network to the destination; and determining based on the determined virtual identifier an appropriate resource associated with the destination to which the indicated data communication will be supplied (= routing data through the network by using virtual connection identifier for transmitting data to the destination address associated with the network IP address) [see Abstract and Figs. 6-7 and Col. 2, Lines 12-56 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claims 13-23, Yamano further teaches the method of claim 12 wherein the destination is a node of the network, and wherein the network address is a physical network address corresponding to the node and wherein the destination is a node of the network, and wherein the network address is a logical network address corresponding to the node and wherein the destination is a node of the network, and wherein the resource associated with the destination is an application executing on the node and wherein the destination is a node of the network, and wherein the resource associated with the destination is a device associated with the node and wherein the indicated data communication includes an indication of the network address and wherein the indicated data communication includes an indication of the virtual identifier and wherein the virtual identifier is associated with the path through the network by a network manager for the network and wherein the associating of the virtual identifier with the path includes configuring a last routing device along the path to forward received data indicating the virtual identifier to the destination and configuring each other routing device along the path to forward received data indicating the virtual identifier to a next of the routing devices along the path and wherein the virtual identifier is not associated with any node of the network including, before the determining of the virtual identifier, receiving information related to the data communication from a network manager for the network, and wherein the determining of the appropriate resource is based at least in part on the received information and wherein the receiving of the information from the network manager is based on a source for the data communication registering the data

communication with the network manager [see Figs. 3 & 6-7 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claim 24, Yamano further teaches the method of claim 12 wherein the indicated data communication was sent by a remote source, wherein the path to which the virtual identifier corresponds is relative to the source using the virtual identifier to communicate data, and including: receiving an indication of a second data communication from a distinct second source that was routed to the destination by using the virtual identifier to correspond to a distinct second path through the network to the destination; and determining a distinct second resource associated with the destination to which the second data communication will be supplied [see Figs. 6-7].

Regarding claim 25, Yamano further teaches the method of claim 12 including determining for the indicated data communication a Class Of Service used for the data communication, and wherein the determining of the appropriate resource is additionally based on the determined Class Of Service (= QoS parameter) [see Abstract].

Regarding claim 26, Yamano further teaches the method of claim 12 including determining for the indicated data communication a transmission priority used for the data communication, and wherein the determining of the appropriate resource is additionally based on the determined transmission priority (= time table) [see Fig. 13].

Regarding claims 27-35, Yamano further teaches the method of claim 12 including determining a second virtual identifier associated with the data communication that corresponds to a path through the network from the destination to a source for the data communication, and wherein the determining of the appropriate resource is additionally based on the determined second virtual identifier and wherein the indicated data communication includes information related to the resource, and wherein the determining of the appropriate resource is additionally based on the included information and including supplying the indicated data communication to the determined resource and including receiving indications of multiple data communications and supplying each of the data communications to a resource associated with the destination based on a virtual identifier used to route the data communication to the destination, at least two of the indicated data communications that are routed to the destination using distinct virtual identifiers being supplied to the same resource and including determining network address information associated with the determined resource and adding the determined network address information to the indicated data communication before supplying the indicated data communication to the determined resource and including determining whether the indicated data communication lacks the determined network address information, and wherein the adding of the determined network address information to the indicated data communication is performed only when the indicated data communication is determined to lack the determined network address information and wherein the determined network address information associated with the determined resource is the network address associated with the

destination and wherein the indicated data communication includes a location in which a destination network address can be stored, and wherein the adding of the determined network address information to the indicated data communication includes storing an indication of that determined network address information in the location and wherein the determining of the network address information associated with the determined resource includes retrieving information previously associated with the determined virtual identifier [see Abstract and Figs. 3 & 6-7 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claim 36, Yamano teaches a computer-readable medium whose contents cause a computing device to process a received data communication based on a virtual identifier that was used to route the data communication through a network, by performing a method comprising: receiving an indication of a data communication that was routed to a destination by using a virtual identifier corresponding to a path through the network to the destination; and determining an appropriate resource associated with the destination to which the indicated data communication will be supplied based on the virtual identifier used to route the indicated data communication through the network to the destination (= routing data through the network by using virtual connection identifier for transmitting data to the destination address associated with the network IP address) [see Abstract and Figs. 6-7 and Col. 2, Lines 12-56 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claims 37-39, Yamano further teaches the computer-readable medium of claim 36 wherein the method further comprises determining network address information corresponding to the determined resource and adding the determined network address information to the indicated data communication before supplying the indicated data communication to the determined resource and wherein the computer-readable medium is a memory of a computer system and wherein the computer-readable medium is a data transmission medium transmitting a generated data signal containing the contents [see Figs. 3 & 6-7 and Col. 2, Lines 12-56].

Claim 40 is rejected under the same rationale set forth above to claim 12.

Regarding claims 41-45, Yamano further teaches the computing device of claim 40 including at least one application program executing in memory of the computing device, and wherein the determined resource is one of the executing application programs and wherein the communication processor is further capable of determining network address information associated with the determined resource and of adding the determined network address information to the indicated data communication before supplying the indicated data communication to the determined resource and wherein the communication receiver and the communication processor are part of a Network Interface Controller for the computing device and wherein the computing device is a node of the network and wherein the communication receiver and the communication

processor are executing in memory of the computing device [see Figs. 3 & 6-7 and Col. 2, Lines 12-56 and Col. 3, Line 55 to Col. 4, Line 54].

Claim 46 is rejected under the same rationale set forth above to claim 12.

Regarding claim 47, Yamano teaches a method for a destination computing device to process a received data communication based on a virtual identifier that was used to route the data communication through a network, the method comprising: receiving an indication of a virtual identifier that can be used to route a data communication through the network to the destination, the receiving of the indicated virtual identifier based on a registration of that data communication with a network manager for the network; after the receiving of the indication of the virtual identifier, receiving a data communication that was routed to the destination by using the indicated virtual identifier; determining a resource associated with the destination that is appropriate to receive the received data communication, the determining based at least in part on the received indication of the virtual identifier; and supplying the received data communication to the determined resource (= routing data through the network by using virtual connection identifier for transmitting data to the destination address associated with the network IP address) [see Abstract and Figs. 6-7 and Col. 2, Lines 12-56 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claims 48-51, Yamano further teaches the method of claim 47 wherein the destination is a node of the network having a network address distinct from the virtual identifier and wherein the virtual identifier is associated by the network manager with a path through the network to the destination and wherein the associating is performed in response to the registration and wherein an ability of the virtual identifier to route a data communication to the destination is enabled during the registration [see Abstract and Figs. 3 & 6-7 and Col. 2, Lines 12-56].

Regarding claim 52, Yamano further teaches the method of claim 47 wherein the receiving of the indication of the virtual identifier includes receiving an authorized Class Of Service for the data communication, and including verifying that the received data communication used the authorized Class Of Service before performing the supplying of the received data communication (= QoS parameter) [see Abstract].

Regarding claim 53, Yamano further teaches the method of claim 47 wherein the receiving of the indication of the virtual identifier includes receiving an indication of at least one authorized priority for the data communication, and including verifying that the received data communication used one of the authorized priorities before performing the supplying of the received data communication (= time table) [see Fig. 13].

Regarding claims 54-59, Yamano further teaches the method of claim 47 wherein the determined resource is an application executing on the destination computing

device and including determining network address information associated with the determined resource and adding the determined network address information to the received data communication before the supplying of the received data communication to the determined resource and including determining that the received data communication includes network address information that is distinct from the determined network address information, and wherein the adding of the determined network address information to the received data communication includes replacing the distinct network address information in the received data communication with the determined network address information and wherein the receiving of the indication of the virtual identifier includes receiving the determined network address information and associating that received network address information with the virtual identifier, and wherein the determining of the network address information associated with the determined resource includes retrieving the network address information associated with the virtual identifier and wherein the registration of the data communication with the network manager is performed by the destination to reflect a data communication that is sent from the destination to a remote computing device, and wherein the received data communication is a response from the remote computing device to the sent data communication and wherein the determined resource is an executing application that initiated the sending of the data communication from the destination to the remote computing device [see Figs. 3 & 6-7 and Col. 2, Lines 12-56 and Col. 3, Line 55 to Col. 4, Line 54].

Regarding claim 60, Yamano teaches a method for a destination to process a received data communication based on a virtual identifier that was used to route the data communication through a network, the method comprising: receiving a data communication that was routed through the network to the destination by using a virtual identifier that is distinct from a network address associated with the destination; adding the associated network address to the received data communication in such a manner that the added network address represents a destination network address; and after the adding of the associated network address to the received data communication, supplying the received data communication to a resource associated with the destination (= routing data through the network by using virtual connection identifier for transmitting data to the destination address associated with the network IP address) [see Abstract and Figs. 6-7 and Col. 2, Lines 12-56 and Col. 4, Line 55 to Col. 5, Line 56].

Regarding claims 61-69, Yamano further teaches the method of claim 60 wherein multiple network addresses are associated with the destination, and including, before the adding of the associated network address to the received data communication, determining one of multiple resources associated with the destination to which the data communication will be supplied and determining one of the multiple network addresses that corresponds to the determined resource, and wherein the associated network address added to the received data communication is the determined one network address and wherein the resource to which the received data communication is

supplied is the determined one resource and determining whether the associated network address is included in the received data communication as the destination network address, and wherein the adding of the associated network address to the received data communication is performed only when the associated network address is not included in the received data communication as the destination network address and determining whether a distinct network address is included in the received data communication as the destination network address, and wherein the adding of the associated network address to the received data communication includes replacing the distinct network address with the associated network address and determining whether the received data communication lacks a destination network address, and wherein the adding of the associated network address to the received data communication is performed only when the received data communication lacks a destination network address and wherein the received data communication includes a location in which the destination network address for the received data communication is to be stored, and wherein the adding of the associated network address to the received data communication includes storing an indication of the associated network address information in the location and including determining the associated network address by retrieving information previously associated with the virtual identifier and wherein the destination is a node of the network, and wherein the resource is an application executing on the destination and determining the associated network address by retrieving information associated with the virtual identifier and receiving an indication of

the virtual identifier from a network manager for the network based on a registration of the data communication [see Figs. 3 & 6-7 and Col. 4, Line 55 to Col. 5, Line 56].

Claims 70-71 are rejected under the same rationale set forth above to claim 60.

Claim 72 is rejected under the same rationale set forth above to claim 12.

Regarding claims 73-74, Yamano further teaches the computer-readable medium of claim 72 wherein the destination is a node of the network, and wherein each of the indicated resources is an application executing on the node and wherein each of the indications of a resource includes information about a communications socket for the destination [see Figs. 3 & 6-7].

Regarding claim 75, Yamano further teaches the computer-readable medium of claim 72 wherein each of the entries further comprises an indication of a Class Of Service, and wherein a received data communication is forwarded to the resource indicated by an entry only if the entry indicates a Class Of Service used for the received data communication (= QoS parameter) [see Abstract].

Regarding claim 76, Yamano further teaches the computer-readable medium of claim 72 wherein each of the entries further comprises an indication of at least one transmission priority, and wherein a received data communication is forwarded to the

resource indicated by an entry only if the entry indicates a transmission priority used for the received data communication (= time table) [see Fig. 13].

Regarding claims 77-81, Yamano further teaches the computer-readable medium of claim 72 wherein each of the entries further comprises an indication of a second virtual identifier that corresponds to a path through the network from the destination to the source of the path corresponding to the indicated virtual identifier for that entry, and wherein a received data communication is forwarded to the resource indicated by an entry only if the entry indicates a virtual identifier and a second virtual identifier that were included as a pair in the received data communication and wherein the indication of the resource for each of the entries includes an indication of network address information associated with that resource, so that before a received data communication is forwarded to the resource indicated by an entry, the network address information indicated for that entry can be added to the received data communication and wherein each of the indicated resources is distinct wherein each of the indicated virtual identifiers is distinct and wherein each entry includes a unique combination of an indicated resource and an indicated virtual identifier [see Figs. 6-7 & 13 and Col. 2, Lines 12-56].

Regarding claim 86, Yamano further teaches the computer-readable medium of claim 36 wherein the contents are instructions that when executed cause the computing device to perform the method [see Figs. 3 & 6-7 & 13 and Col. 2, Lines 12-56].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 82-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamano, U.S. Pat. No. 6,636,516 in view of Pekkala et al (Hereafter, Pekkala), U.S. Pat. Application Pub. No. US 2002/0172195 A1.

Regarding claims 82-85, Yamano does not explicitly teach the method of claim 12 wherein the indicated data communication includes one or more Fibre Channel frames and one or more InfiniBand packets and wherein the network uses the Fibre Channel protocol and the InfiniBand protocol. However, Pekkala, in the same field of routing data endeavor, discloses Fibre-channel packets and InfiniBand packets as well

as Fibre-channel protocol and InfiniBand protocol [see Abstract and Paragraph [0063]].

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Pekkala into the teachings of Yamato in order to support the Fibre Channel protocol and the InfiniBand protocol for routing Fibre Channel frames and InfiniBand packets throughout the network.

Response to Arguments

6. Applicant's arguments have been fully considered but they are not persuasive because of the following reasons:

Based on the broadest interpretation of the instant application claims, Yamano discloses routing data through the network by using virtual connection identifier for transmitting data to the destination address associated with the network IP address wherein there are virtual paths between source node and destination node [see Yamano, Abstract and Figs. 6-7 and Col. 2, Lines 12-56 and Col. 4, Line 55 to Col. 5, Line 56].

Applicant is requested to further clarify what resource/application program are using and how it would help to further route the data communication without a need for addresses supplied from outside the destination node because it is not clearly defined in the claimed language. *Applicant is reminded that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).*

As a result, cited prior art does disclose a system and method as broadly claimed by the applicant. Therefore, the examiner asserts that cited prior art teaches or suggests the subject matter recited in independent claims. Dependent claims are also rejected at least by virtue of dependency on independent claims and by other reasons shown above. Accordingly, claims 1-86 are respectfully rejected.

Other References Cited

7. The following references cited by the examiner but not relied upon are considered pertinent to applicant's disclosure.

A) Cheriton et al, U.S. Pat. No. 6,798,776.

B) Mori, U.S. Pat. No. 6,172,991.


Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CAR 1.136(a).

A SHORTENED STATUTORY PERIOD FOR REPLY TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE MAILING DATE OF THIS ACTION. IN THE EVENT A FIRST REPLY IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CAR 1.136(A) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT, HOWEVER, WILL THE STATUTORY PERIOD FOR REPLY EXPIRE LATER THAN SIX MONTHS FROM THE MAILING DATE OF THIS FINAL ACTION.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Tran whose telephone number is (571) 272-3991. The Group fax phone number is (571) 273-8300. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar, can be reached on (571) 272-4006.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip B. Tran
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Art Unit 2155
Feb 17, 2006